2013 ANNUAL REPORT

AUTOMATED TRAFFIC ENFORCEMENT ON PRIMARY HIGHWAYS IN DES MOINES

Address the impact of automated traffic enforcement technology on reducing speeds and/or number of red light running violations at sites being monitored.

The number of red light running violations since July, 2011:

Red Light Locations	2011 (July-Dec)	2012	2013	
E 15 th & Maple	950	1054	493	
MLK & School	1633	5040	6146	

^{*}These statistics were pulled from Gatso, Inc., and are based on Citations Resulted from Captured Violations by Approach.

These intersections were originally chosen by the Des Moines Police Department for camera enforcement because:

- High incidence of crashes at both intersections
 - The crash stats were taken from DOT's 2005-2009 Statewide Intersection Safety Improvement Candidate Location List.
 - These two intersections were recently redesigned by the Iowa Department of Transportation This took place prior to implementation of the ATE cameras.

East 15th & Maple

- The camera at this intersection has been effective at decreasing the number of violators.
 - o Approximately 50% decrease from 2012-2013.
- A goal of the Des Moines Police Department is a continued decrease in red light violations at this intersection.

MLK & School

- Red light violations continue to be problematic at the Martin Luther King Jr. and School Street intersection.
- This red light camera includes traffic travelling eastbound through the intersection and also includes motorists who are making a right turn to go southbound on Martin Luther King Jr. Roadway.
 - Right turns contribute to the number of violations at this location.
 - There are instances where motorists do not stop at this intersection prior to making a right hand turn.
 - These motorists must be travelling at 11 mph or above during the right hand turn in order to initiate a violation by the ATE camera at this location.
- The increase in violations at this intersection validate the need for continued enforcement at this location.

• The Des Moines Police Department intends to work with the DOT to enhance the visibility of the signage in an effort to decrease the number of red light violations at this intersection.

Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years. If the system includes intersection enforcement, only the monitored approaches should be included in the evaluation.

The table below represents the total number of accidents per year at:

- E 15th and Maple (NB),
- MLK & School St (EB)
- I-235 EB between 4200 block and 4700 block (5.5 to 4.8 mile marker).

ACCIDENTS

Location	2009	2010	2011	2011	2012	2013
			Before	After		
			Cameras	Cameras		
E 15 th & Maple	16	10	4	5	5	6
St. (NB)						
MLK & School St.	16	12	4	6	6	10
(EB)						
I-235 4700 Block	5	9	2	2	3	6
(EB)						

^{*2013} DOT crash statistics were unavailable at the time of this report. The data reflects the number of accidents recorded by DMPD and the City of Des Moines.

- These numbers represent the total number of accidents at these particular intersections for two full years before cameras and two full years after our traffic camera program was implemented.
- The number of accidents in 2011 is divided according to when the implementation of the cameras took place.
 - o E 15th & Maple and MLK & School
 - The number of accidents in "2011 before cameras" includes the months of January through June 2011 St.
 - The number of accidents in "2011 after cameras" include the months of July to December.
 - o On I-235 between the 4700 and 4200 block (4.8 and 5.5 mm)
 - The number of accidents in "2011 before cameras" spans the months of January to September.
 - The number of accidents in "2011 after cameras" span the months of October through December, 2011.
- When looking at these crash statistics, it is important to note the decrease in the number of crashes at E 15th and Maple (NB) after the implementation of the red light cameras.
- The number of crashes at MLK and School St (EB) decreased as well after the implementation of cameras.
- In 2013, however, the number of crashes rose to 10 at this intersection, indicating a continued need for enforcement here.

- On I-235 between 4700 block to the 4200 block (4.8 to 5.5 mm) we have seen a decrease in the number of accidents overall. I
 - o In 2013, a spike in accident numbers can be seen at this location
 - The increase in traffic flow at this location could be attributable to the closure of the Grand Avenue Bridge (63rd and Grand). This bridge closed on March 25, 2013 and remained closed until December 14, 2013.
 - Approximately 18,000 vehicles use the Grand Avenue Bridge each day. The closure could be a cause of the spike in traffic volume on I-235, possibly contributing to the increase in accident numbers at this location in 2013.
- According to DOT traffic counts, the busiest spot on lowa's roadways is on I-235 in Des Moines between 56th and 42nd Street. This location is where the I-235 speed cameras are utilized.
 - The average daily traffic in 2012 was 118,300 vehicles per day. Also, according to recent DOT statistics on the volume of traffic on the municipal interstate system, in 2013 there was an increase in volume of traffic compared to 2012 on the municipal interstate.
 - o In 2012, there were 2,584,000,000 vehicles utilizing this municipal interstate.
 - o In 2013 2,610,000,000 vehicles used the roadway.
 - This is an increase of 1%.

AVERAGE NUMBER OF ACCIDENTS

Location	Average number of accidents before cameras 2009-2011	Average number of accidents after cameras 2011-2013		
E 15 th & Maple	12	6.4		
MLK & School	16.8	8.8		
I-235 EB between the	5.8	4.8		
4200-4800 block (EB)				

 When taking into account the Des Moines Police Department statistics on the average number of accidents before and after cameras, it relevant to note that the average number of accidents after cameras has decreased significantly at each of these three locations.

TYPES OF ACCIDENTS - E 15th & Maple St

	2009	2010	2011	2011	2012	2013
			(Before (After			
			Cameras)	Cameras)		
Ran Light	12	5	2	3	2	4
Rear End	1	3	1	0	2	1
Sideswipe	1	2	1	0	0	1
Unk/Other	2	0	0	2	1	0

• The total number of accidents caused by red light violations has decreased significantly since the implementation of red light cameras at E 15th and Maple St.

TYPES OF ACCIDENTS - Martin Luther King & School St

	2009	2010	2011	2011	2012	2013
			(Before	(After		
			Cameras)	Cameras)		
Red Light	10	9	3	5	2	8
Rear End	1	0	0	1	2	0
Sideswipe	1	0	1	0	1	2
Unk/Other	4	3	0	0	1	0

- The total number of accidents caused by red light running have decreased since the implementation of red light cameras at Martin Luther King Jr. and School St.
- However, the number of accidents overall have spiked in 2013.
- The increase in numbers at this location in 2013 validate the need for continued enforcement at this particular location.

TYPES OF ACCIDENTS - I-235 (4700 block to 4200 block EB)

	2009	2010	2011	2011	2012	2013
			(Before	(After		
			Cameras)	Cameras)		
Rear End	2	4	2	0	0	0
Sideswipe	1	3	0	1	1	1
Fatality	0	0	0	0	0	1
Unk/Lost	2	2	0	1	2	4
Control/						
Speed/Other						

- As previously stated, the total number of accidents on I-235 in this area (4700 block to 4200 block) have decreased since the implementation of our camera program.
- Accidents still remain a concern for this location.
- One fatality occurred along this stretch of roadway, The vehicle's driver appeared to have lost control, left the roadway at the 4200 block, and then came to a rest in the 4000 block of I-235.
 - The cameras were not activated, indicating that speed may not have been a factor in this accident.
 - The accident may been a result of the dangerous roadway characteristics in this location. The roadway's characteristics is the primary reason why the cameras were chosen for this particular location on I-235.
 - The roadway in this area narrows considerably, especially the left shoulder, nearest the median barrier, and begins a series of curves.
 - These conditions create a safety hazard for traditional speed enforcement by police officers.
 - The accident statistics, including this fatal accident, exemplifies the need for continued enforcement efforts by ATE's in this particular high-risk, high traffic flow location.

<u>Evaluate and document the automated traffic enforcement system's impact on addressing the critical traffic safety issue(s) listed in the justification report if a justification report was part of the system's initial approval process.</u>

- Both of the intersections (MLK and School St., and E 15th and Maple) chosen for red light cameras were selected based on each being considered a high crash location.
- Using the 2005-2009 Statewide Intersection Safety Improvement Candidate Location List, the frequency rank of Martin Luther King and School St was #1 and E 15th and Maple St was #2.
- Using this same report for the years 2008-2012 (a portion of which was after the
 implementation of our camera program in July 2011, as all was all of 2012), the frequency
 ranking of the ML King and School location dropped to #2 and the E 15th and Maple location
 dropped to #10.
- The frequency ranking takes into account the severity and frequency of accidents and accident types.
 - The attributes that were considered were volume of traffic, controlled intersection, construction standards and future plans for intersection reconfiguration.
- The frequency ranking at these two intersections have lowered in recent years.
- High risk locations are those where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.
- As previously stated, the cameras affixed on I-235 are a safer alternative than traditional enforcement.
 - The width and configuration of the highway, specifically at the left shoulder, narrows considerably, and the roadway begins a series of turns.
 - This makes traditional speed enforcement hazardous for police officers at this location.
- Due to the high-risk characteristics that impact safe traditional enforcement at this location, the I-235 cameras are an extremely beneficial aspect of our enforcement efforts.
- There were 42,156 speed citations issued in 2013, which demonstrates that these cameras continue to be an asset for deterrence efforts by law enforcement.
- The cameras provide the Des Moines Police Department with an avenue to enforce speed at this location without endangering the lives of citizens or law enforcement officers.

Provide the total number of citations issued for each calendar year the system has been in operation.

Citations Issued	2011	2012	2013
Red Light Intersections	2583	6094	6639
	(July 2 – Dec 31)		
I-235 4700 block Speed	19486	36202	42156
	(Sep 27-Dec 31)		
Mobile Speed	3514	6530	4442
	(July 2 – Dec 31)		

The above is derived from Gatso, Inc., and include the Issued Citations by Approach.

Mobile Speed Camera:

- The mobile speed camera is utilized on roadways where we have a high number of documented citizen generated complaints of speeding vehicles.
- In 2011, there were 291 documented traffic complaints. In 2012 there were 241 documented traffic complaints, and 2013 there were 281 documented traffic complaints.
- The mobile radar unit is one tool used to address these complaints.
- The mobile radar speed camera can be used in school zones or construction zones as well.
- The mobile unit's total number of citations issued varies from year to year for many reasons, including
 - Weather related conditions
 - Traffic flow
 - Non-valid complaints
- The mobile radar unit is an asset for our Traffic Unit, and is a safe alternative for enforcement efforts in problematic areas.
- The mobile unit does not deploy to primary highways within the City of Des Moines, in compliance with the Iowa DOT guidelines that were established in June, 2012.

<u>Certify that the calibration requirements of sub-rule 144.6 (4) have been met.</u>

- On 3-12-13 Des Moines Police certified the I-235 cameras using police vehicle unit 2753
- On 7-15-13 Des Moines Police certified the I-235 cameras using a calibrated speed sensor.
- The Des Moines Police Department will be in compliance with section 144.6 (4) in 2014.